

## PATENT ABSTRACTS OF JAPAN

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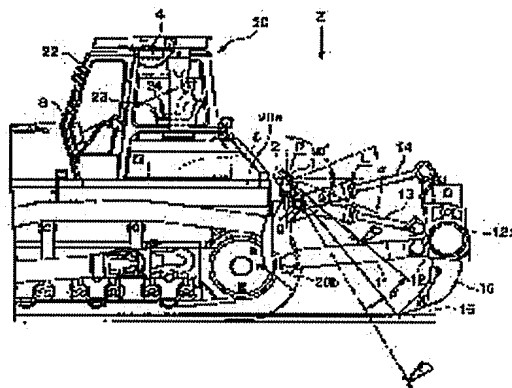
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**(54) REARWARD MONITORING DEVICE OF CONSTRUCTION MACHINE AND ITS REARWARD MONITORING METHOD****(57)Abstract:**

**PROBLEM TO BE SOLVED:** To improve working efficiency by providing a telecamera capable of photographing a ripper device at the upward position of the rear part of a construction machine and displaying an image photographed with the telecamera on a display.

**SOLUTION:** When a select operation lever 23 is operated, an operation signal is input to a control means 5 and it is judged whether a construction machine is advancement running or retreat running. In the case of the advancement running, when a detection signal from the position detection means 9 of a ripper link is input to the control means 5, the rotation direction of a telecamera 1 is computed. The telecamera 1 outputs a rotation signal directed in the direction of a shank point 15, and the instruction signal for the rotation mechanism of the telecamera 1 is output. Furthermore, the rearward part of the construction machine is photographed, and an image is displayed on a display. In addition, in the case of the retreat running, the telecamera 1 is rotated in the horizontal direction and a photographed image is displayed. Thereby working efficiency and safety can be improved.

**LEGAL STATUS**

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- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\*\* shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

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CLAIMS

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[Claim(s)]

[Claim 1] it arranges in the posterior part upper part location of a construction equipment (20) in the construction equipment equipped with rip-saw equipment behind the car body -- having -- television camera (1) which can photo rip-saw equipment (10) Display (3) arranged in the inside of a driver's cabin (22), or a monitor room having -- television camera (1) the photoed image -- display (3) Back supervisory equipment of the construction equipment characterized by making it display.

[Claim 2] It sets to the back supervisory equipment of a construction equipment according to claim 1, and is said television camera (1). Rotation device made rotatable between the rip-saw camera station which photos the digging point of rip-saw equipment (10), and the back camera station which photos the back of a construction equipment (20) by remote operation from the inside of a driver's cabin (22), or a monitor room (2) Back supervisory equipment of the construction equipment characterized by having.

[Claim 3] rotation device (2) rotated in the construction equipment equipped with rip-saw equipment behind the car body arrange in the posterior part upper part location of a construction equipment (20), and possible [ photography of rip-saw equipment (10) ] Television camera (1) which it has this television camera (1) Display (3) arranged in the inside of the driver's cabin (22) which displays the photoed image, or a monitor room it arranges behind a construction equipment -- having -- and rip-saw link (11 12) of rip-saw equipment (10) A location detection means (9) to detect an actuated position said location detection means (9) In response to the detecting signal of \*\*, the digging location of the rip-saw shank point (15) of rip-saw equipment (10) is calculated. from -- It is based on this result of an operation, and is a television camera (1). It is a rotation device (2) about a command signal so that bearing of the exposure axis may be rotated towards the rip-saw shank point (15). Control means to output (5) Back supervisory equipment of the construction equipment characterized by having.

[Claim 4] the back supervisory equipment of a construction equipment according to claim 3 -- setting -- said control means (5) It is said television camera (1) in response to the signal of go-astern gear change actuation of a construction equipment (20). It is said rotation device (2) about the command signal which rotates bearing of the exposure axis horizontally to the ground. It outputs. And the signal of advance gear change actuation of a construction equipment (20), Said rip-saw link (11 12) A location detection means to detect an actuated position (9) A detecting signal is received. The digging location of the rip-saw shank point (15) is calculated. It is based on this result of an operation, and is said television camera (1). It is a rotation device (2) so that bearing of the exposure axis may be rotated towards the rip-saw shank point (15). Back supervisory equipment of the construction equipment characterized by making it output a command signal.

[Claim 5] two or more television cameras (1, 1a, 1b) installed in the posterior part upper part location of a construction equipment (20) in the construction equipment equipped with rip-saw equipment behind the car body It is arranged in the inside of a driver's cabin (22), or a monitor room, and has the display unit (3A) which can be displayed on one screen for two or more images. Said two or more television cameras (1, 1a, 1b) Back supervisory equipment of the

construction equipment characterized by displaying the photoed image on said display unit (3A) at coincidence.

[Claim 6] It sets to claim 2 thru/or the back supervisory equipment of a construction equipment given in either of 5, and is said television camera (1, 1a, 1b). Rotation device (2, 2a, 2b) By the actuation from a driver's cabin (22) or a monitor room, it is a television camera (1, 1a, 1b). Back supervisory equipment of the construction equipment characterized for bearing of the exposure axis by the perpendicular direction or the horizontally rotatable thing to the ground.

[Claim 7] claim 2 thru/or the back supervisory equipment of a construction equipment given in either of 5 -- setting -- said television camera (1, 1a, 1b) the remote operation from a driver's cabin (22) or a monitor room -- a zoom -- back supervisory equipment of the construction equipment characterized by the operational thing.

[Claim 8] It sets to claim 2 thru/or the back supervisory equipment of a construction equipment given in either of 5, and is said television camera (1, 1a, 1b). Back supervisory equipment of the construction equipment characterized by enabling the attachment and detachment to a standard lens or a wide angle lens by whenever [ angle-of-coverage ].

[Claim 9] The display (3) which displays the rotation device it is arrange in the posterior part upper part location of a car body, and make the television camera which can photo rip saw equipment, and a television camera rotate, and the image which photoed with a television camera It is the back monitor approach of the construction equipment characterize by make it make it rotate with the signal from the control unit with which the rotation device of said television camera carries out operation of the construction equipment in the back monitor approach of the construction equipment which has and supervises rip saw equipment.

[Claim 10] They are a location detection means by which said control unit detects the actuated position of the rip-saw link of rip-saw equipment in the back monitor approach of a construction equipment according to claim 9, or the back monitor approach of the construction equipment characterized by being the gear change control unit which controls the travel speed of a construction equipment.

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[Translation done.]

construction equipment characterized by displaying the photoed image on said display unit (3A) at coincidence.

[Claim 6] It sets to claim 2 thru/or the back supervisory equipment of a construction equipment given in either of 5, and is said television camera (1, 1a, 1b). Rotation device (2, 2a, 2b) By the actuation from a driver's cabin (22) or a monitor room, it is a television camera (1, 1a, 1b). Back supervisory equipment of the construction equipment characterized for bearing of the exposure axis by the perpendicular direction or the horizontally rotatable thing to the ground.

[Claim 7] claim 2 thru/or the back supervisory equipment of a construction equipment given in either of 5 -- setting -- said television camera (1, 1a, 1b) the remote operation from a driver's cabin (22) or a monitor room -- a zoom -- back supervisory equipment of the construction equipment characterized by the operational thing.

[Claim 8] It sets to claim 2 thru/or the back supervisory equipment of a construction equipment given in either of 5, and is said television camera (1, 1a, 1b). Back supervisory equipment of the construction equipment characterized by enabling the attachment and detachment to a standard lens or a wide angle lens by whenever [ angle-of-coverage ].

[Claim 9] The display (3) which displays the rotation device it is arrange in the posterior part upper part location of a car body, and make the television camera which can photo rip saw equipment, and a television camera rotate, and the image which photoed with a television camera It is the back monitor approach of the construction equipment characterize by make it make it rotate with the signal from the control unit with which the rotation device of said television camera carries out operation of the construction equipment in the back monitor approach of the construction equipment which has and supervises rip saw equipment.

[Claim 10] They are a location detection means by which said control unit detects the actuated position of the rip-saw link of rip-saw equipment in the back monitor approach of a construction equipment according to claim 9, or the back monitor approach of the construction equipment characterized by being the gear change control unit which controls the travel speed of a construction equipment.